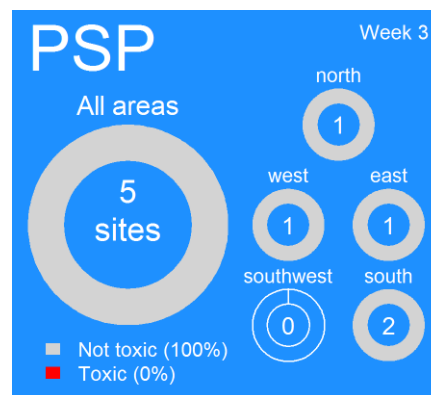
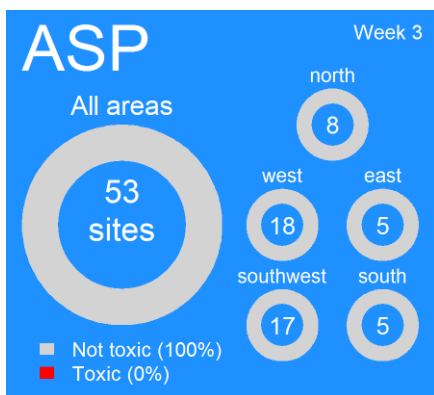
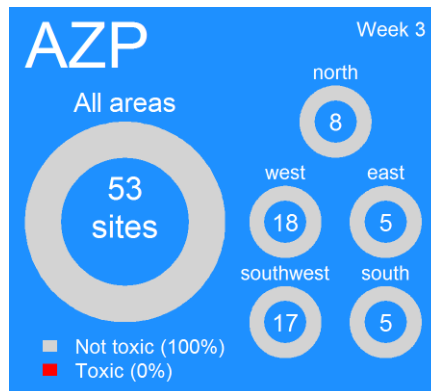
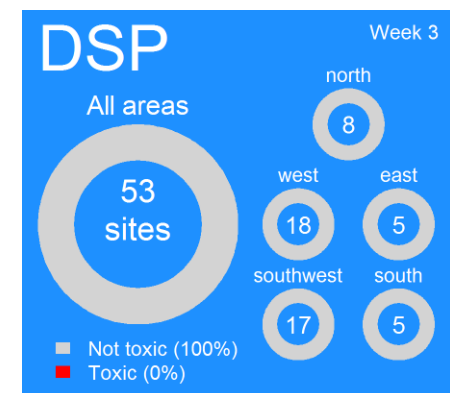


Ireland: Current Conditions

Shellfish biotoxin report (last week)



EU Regulatory Limit:

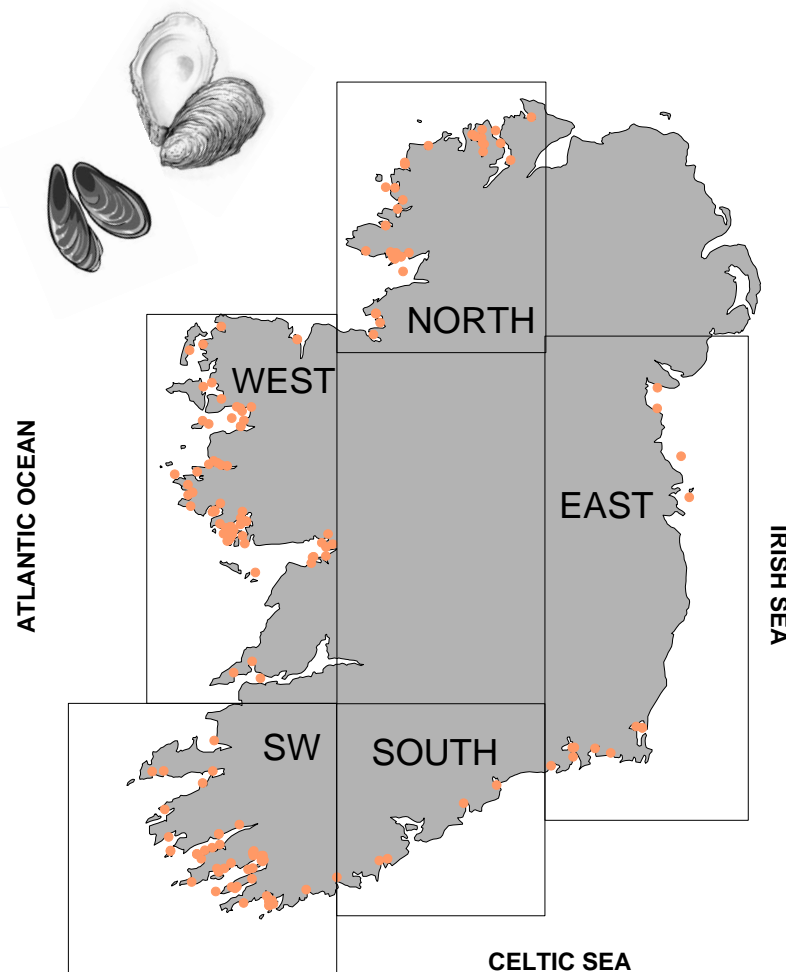
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Toxin groups

ASP = Amnesic Shellfish Poisoning; AZP = AZaspiracid Poisoning;

DSP = Diarrhetic Shellfish Poisoning; PSP = Paralytic Shellfish Poisoning

National Monitoring Programme Designated Sampling Sites



Ireland: Predictions

ASP event: Low

AZP event: Low-Medium

DSP event: Low

PSP event: Low

Why do we think this?

ASP: While very low background levels of some *Pseudo nitzschia* species have been recorded in some sites, all sites remain clear of toxins and this trend would be expected to continue at this stage in the year.

AZP: Levels of *Azadinium* spp. continue to fluctuate around the coast with a potential doubling in site distribution in the last week. Biotxin levels are currently below regulatory limits. Caution is still advised at this time.

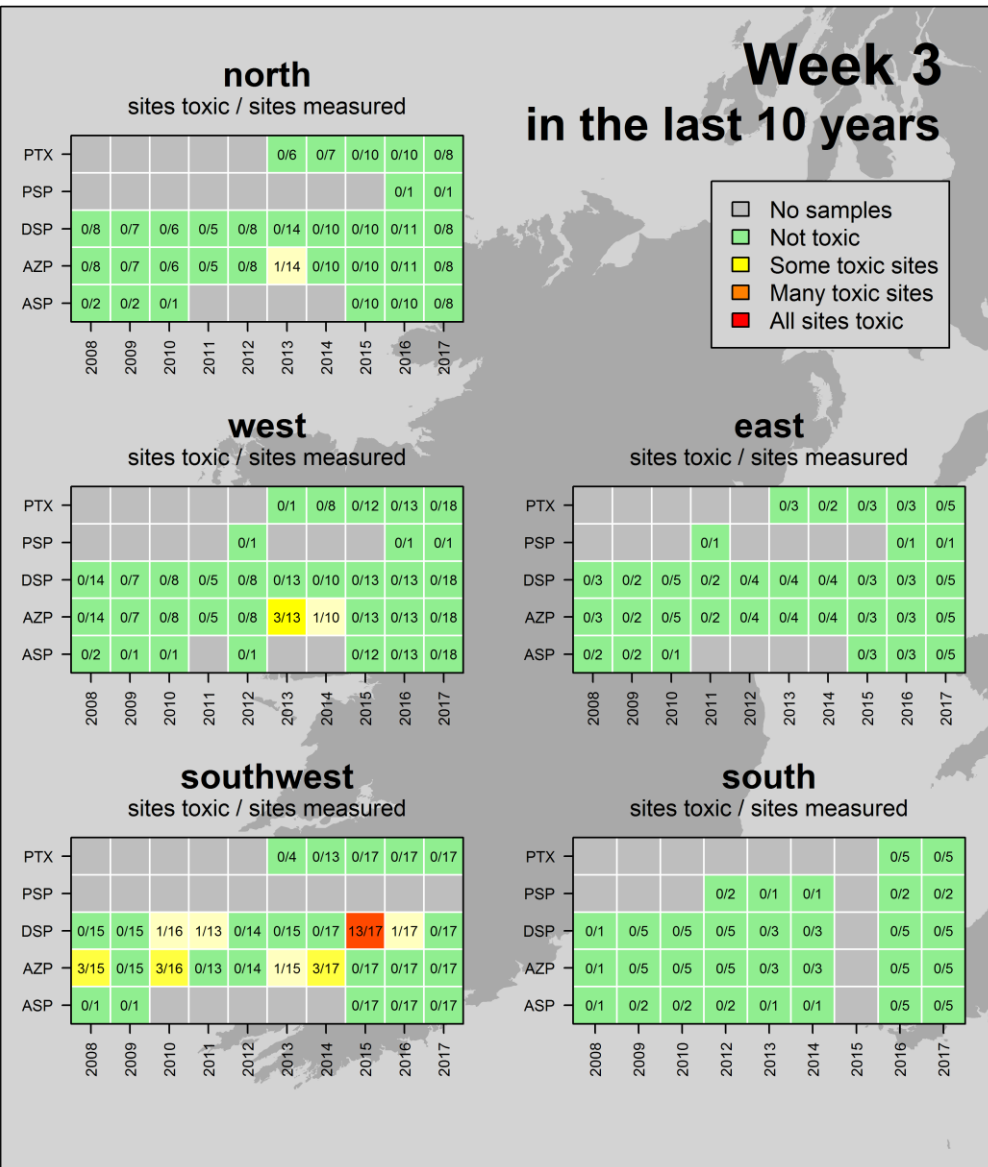
DSP: This is currently a low risk period for early DSP events. All sites are currently below regulatory limits.

PSP: A toxic event is not expected at this time of year.

Please note: We will be updating the format of this bulletin throughout the year in an active effort to increase end user applicability and incorporate developing technologies. All feedback is welcome at Joe.Silke@Marine.ie.

Ireland: Historic Conditions

A look back at how last weeks biotoxin results compares to other years



Ireland HISTORIC TRENDS

Likely times for Shellfish Toxicity: does not include winter carry over of biotoxins

ASP events: mid-March to early May

AZP events: April to December

DSP events: May to December

PSP events: June to mid-July and end September; only in Cork Harbour



Ireland: Last 3 weeks of available National Monitoring Programme data



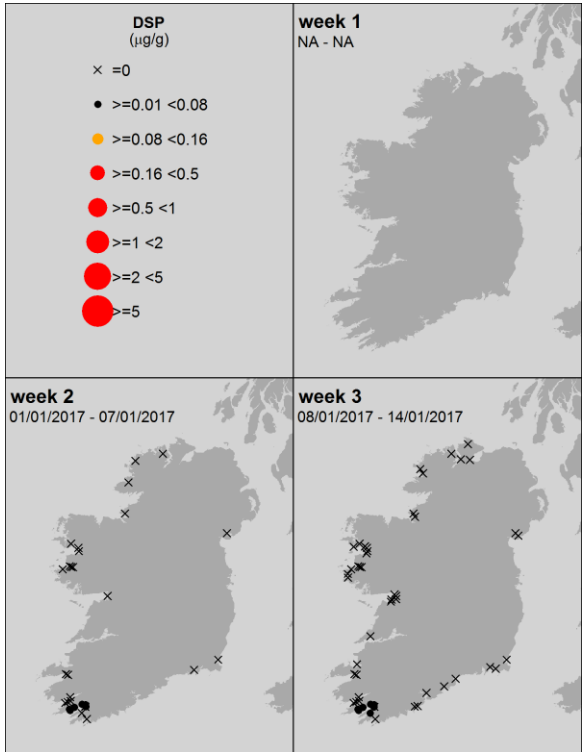
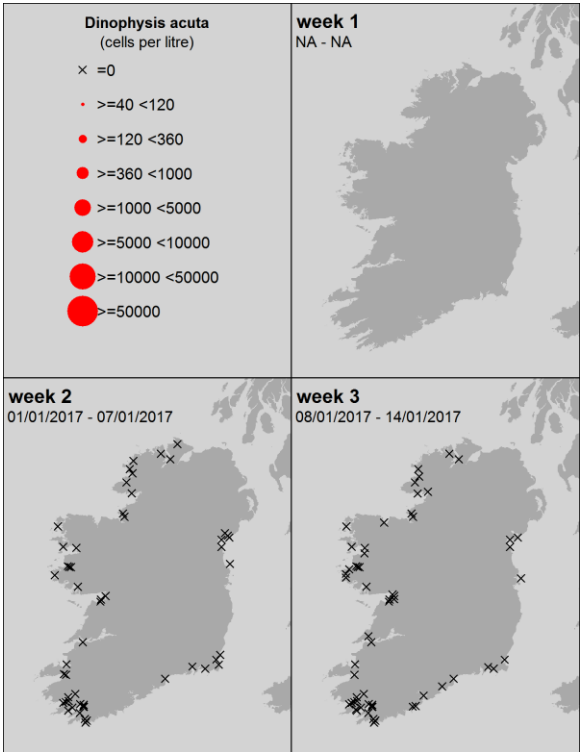
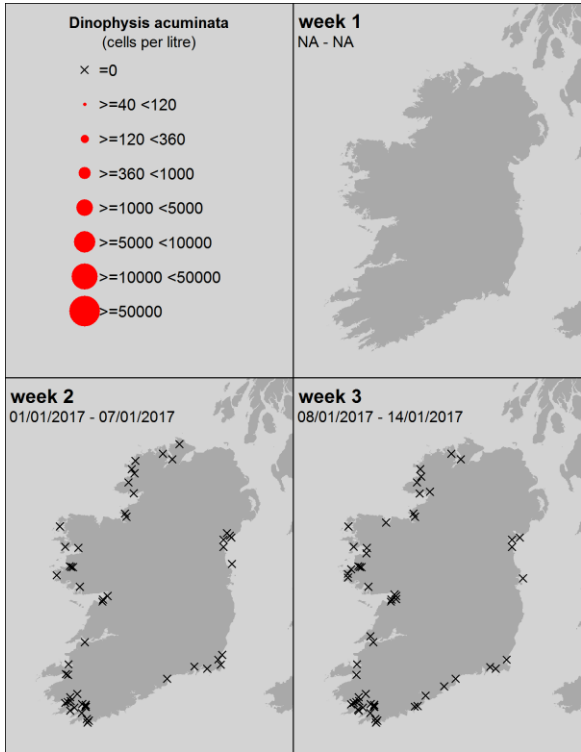
Dinophysis acuminata



Dinophysis acuta



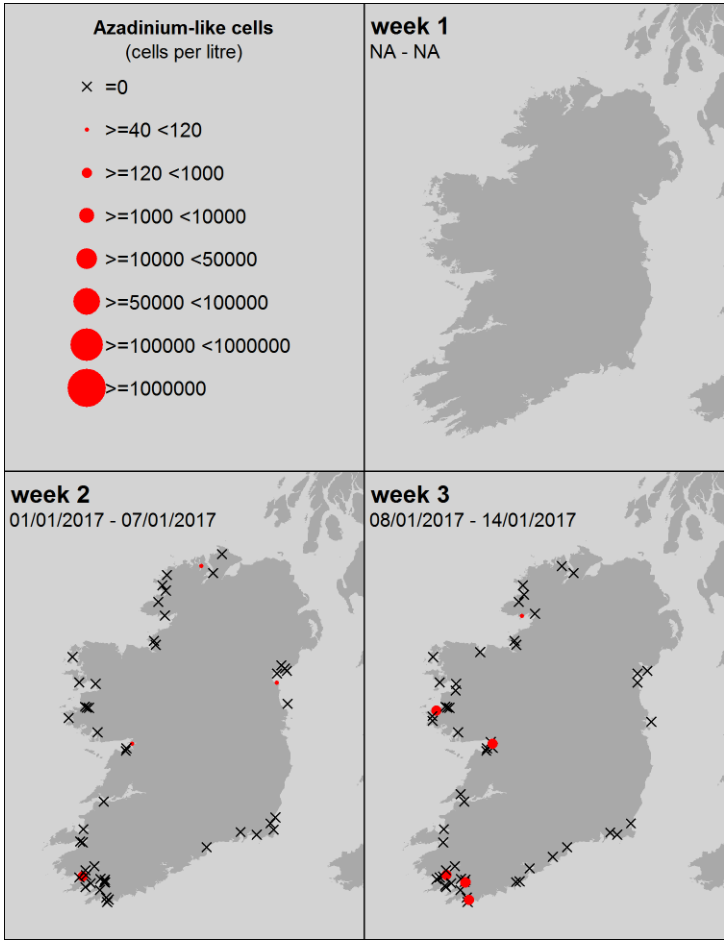
DSP



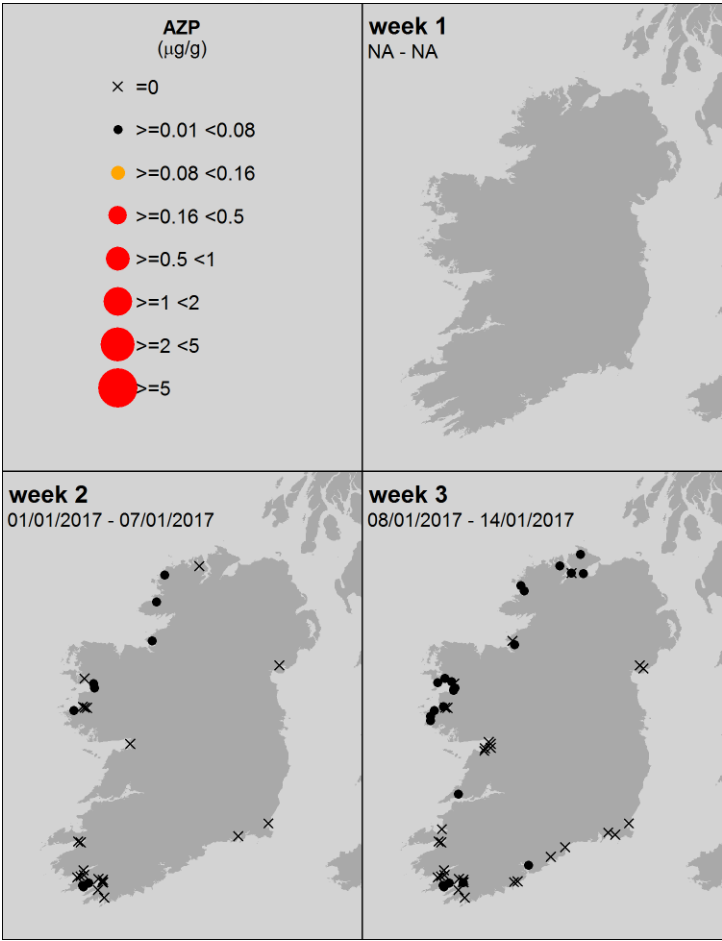
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

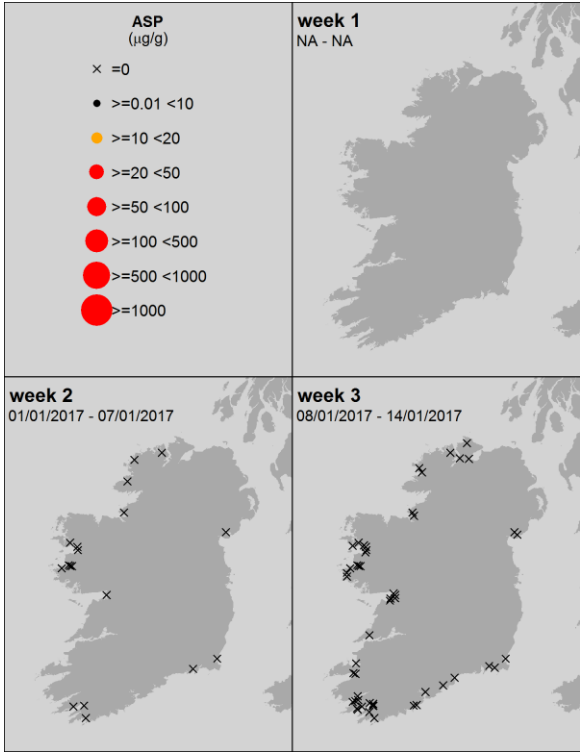
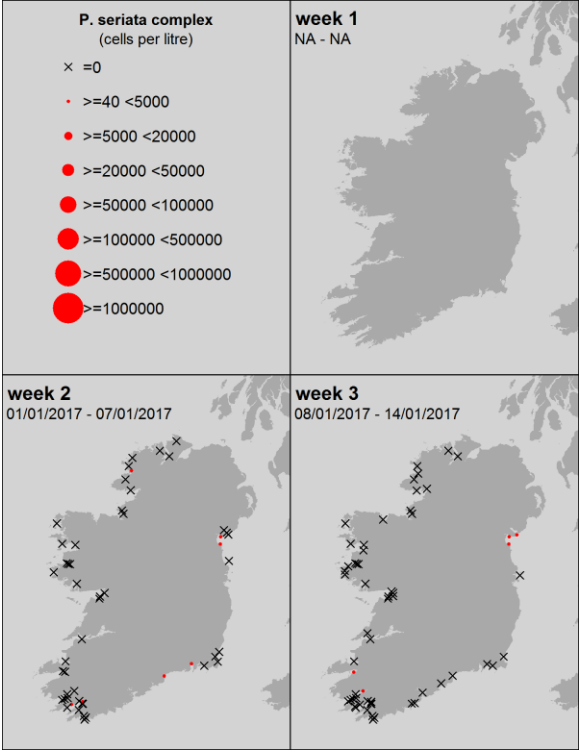
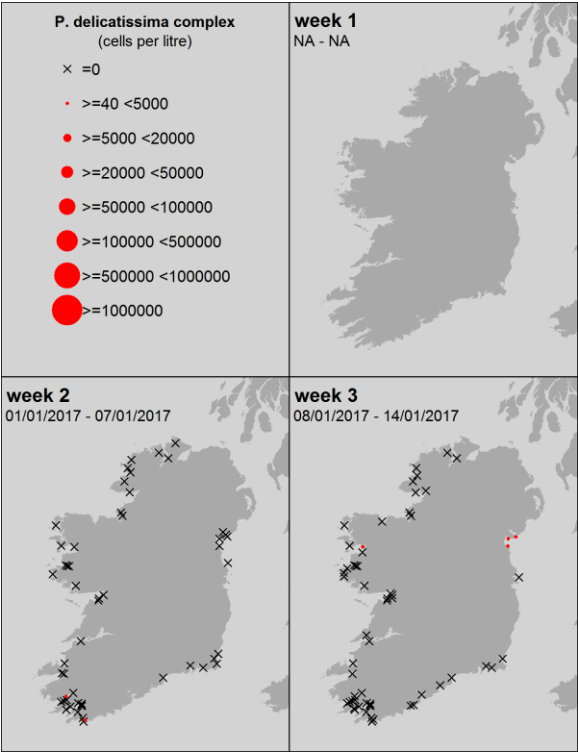
Pseudo-nitzschia spp.



ASP

“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

“*P. seriata*” complex = large cells
Taken from the literature:
7 species confirmed in Irish waters



Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

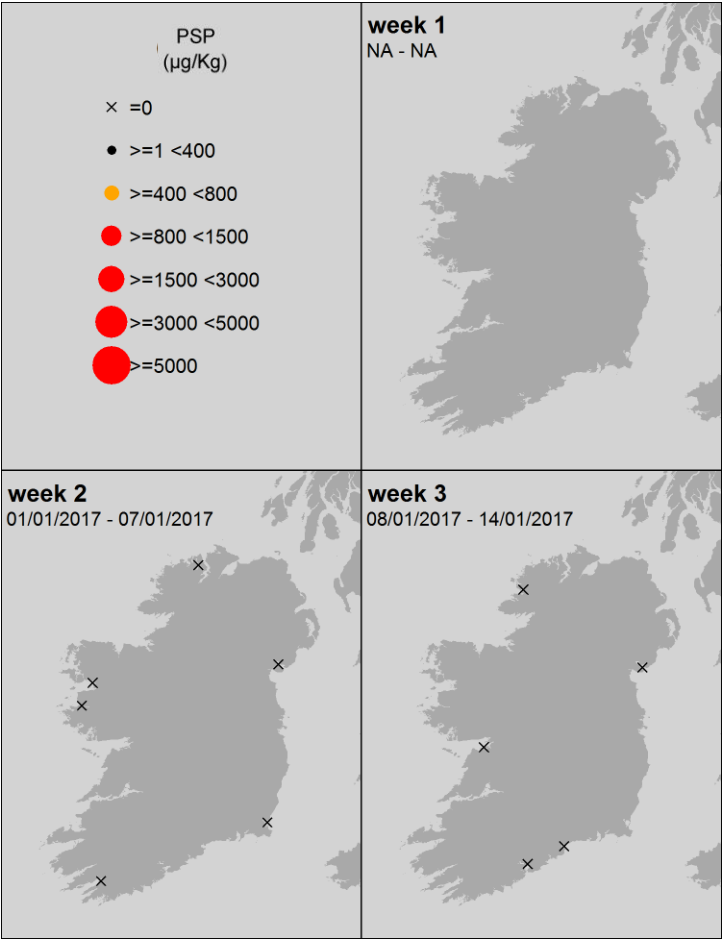
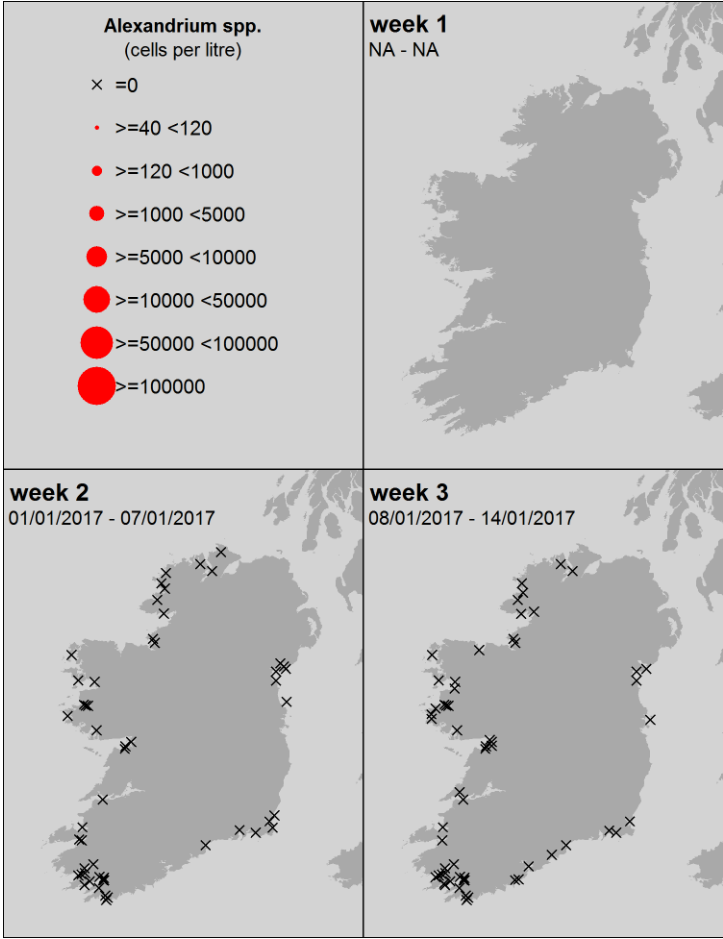
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



PSP



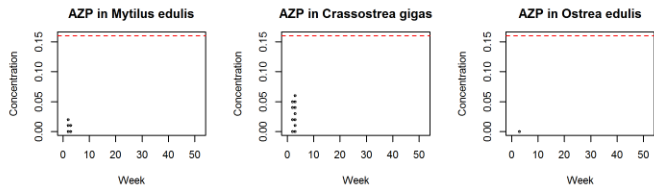
Ireland: **HABs and biotoxins** Levels from week 1 to present

Ireland: **Biotoxins**

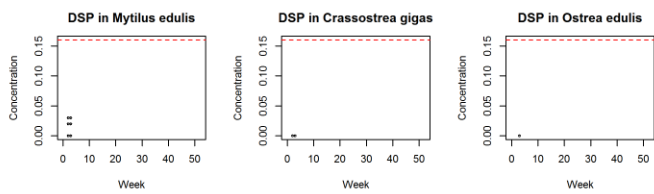


Toxin groups mussels oysters oysters

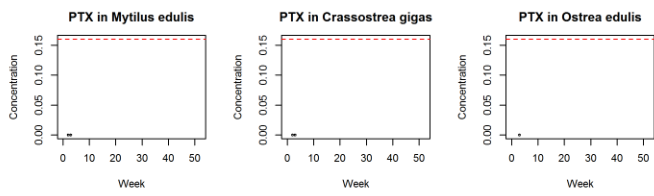
AZP
AZaspiracid
Poisoning



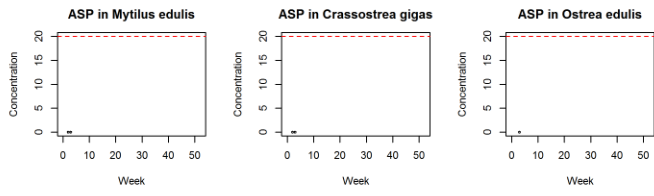
DSP
Diarrhetic
Shellfish
Poisoning



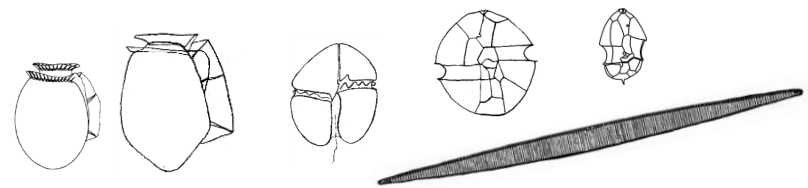
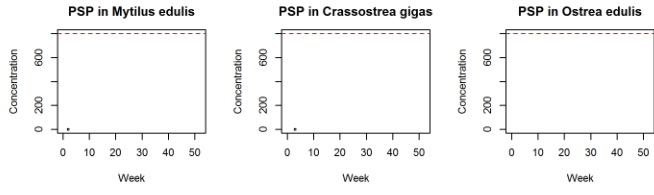
PTX
Pectenotoxin



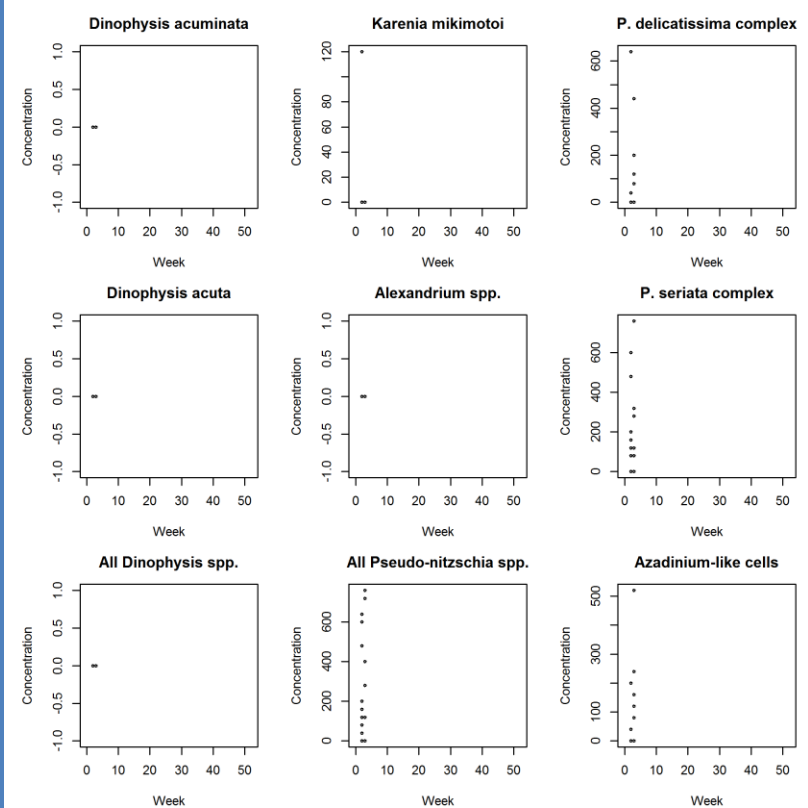
ASP
Amnesic
Shellfish
Poisoning



PSP
Paralytic
Shellfish
Poisoning



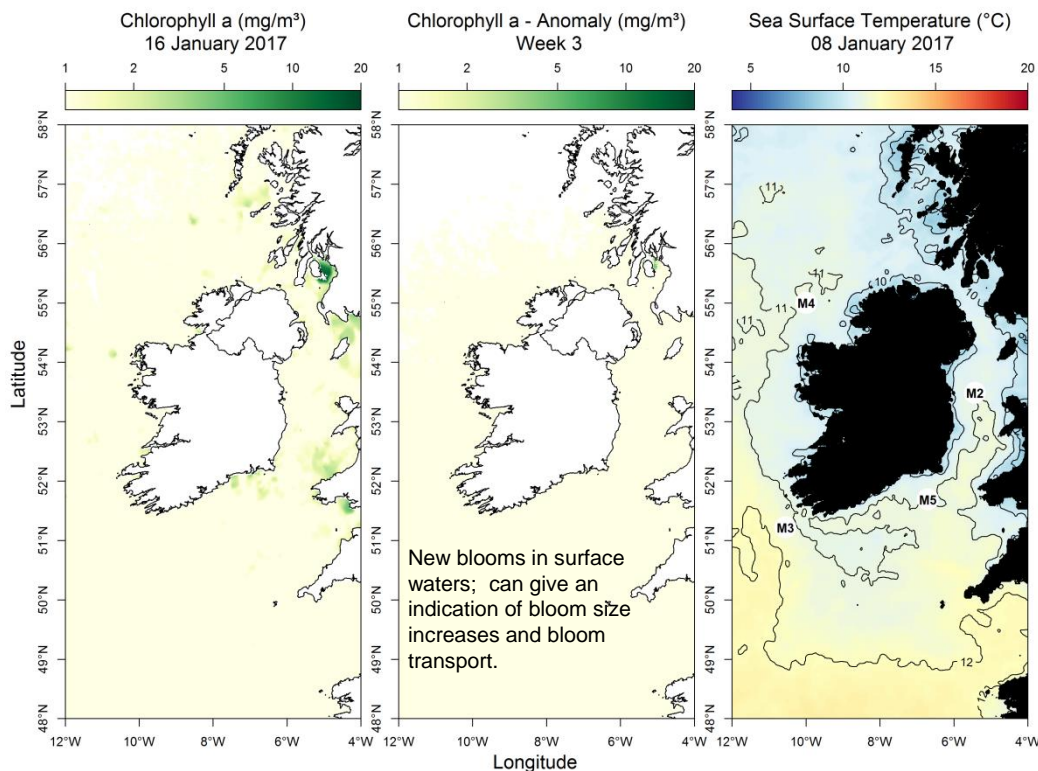
Ireland: **HABs**



EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■■

Most up to date available satellite data

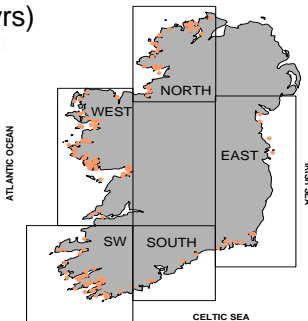


SST (°C) anomaly for last week:

Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

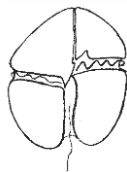
- NW coast (M4) Data unavailable
- SW coast (M3) Data unavailable
- SE coast (M5) Data unavailable

Sea surface temperature figures currently unavailable



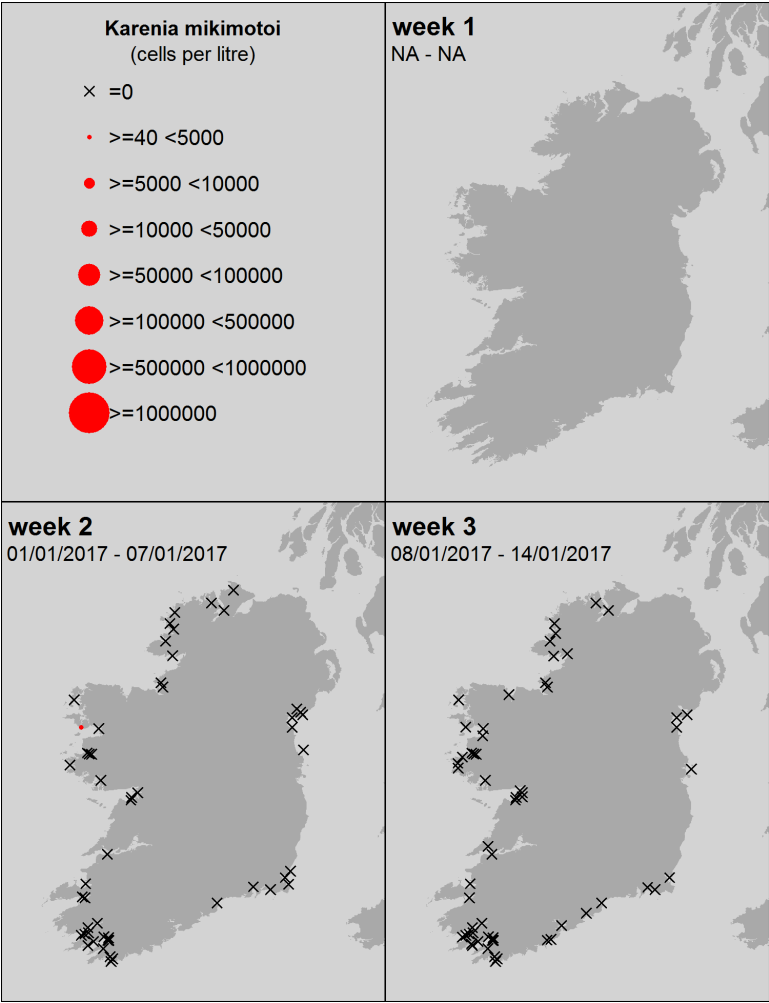
What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Pennate diatom	186000
2	east	Skeletonema spp.	33000
3	east	Centric Diatom	14000
4	east	Thalassiosira spp.	6000
5	east	Leptocylindrus danicus	6000
1	north	Pennate diatom	36000
2	north	Asterionellopsis spp.	15000
3	north	Striatella spp.	3000
4	north	Cylindrotheca closterium/ Nitzschia longissima	2000
5	north	Paralia sp.	1000
1	south	Navicula spp. <25um	40000
2	south	Prymnesiophytes	13000
3	south	Paralia sulcata	7000
4	south	Lauderia spp.	4000
5	south	Paralia sp.	4000
1	southwest	Microflagellate spp. <10um	413000
2	southwest	Prymnesiophytes	328000
3	southwest	Skeletonema spp.	35000
4	southwest	Navicula spp. 20-50 um	19000
5	southwest	Thalassiosira <20um	17000
1	west	Pennate diatom	22000
2	west	Navicula spp. 20-50 um	14000
3	west	Prymnesiophytes	13000
4	west	Pennate diatom 20-50um	13000
5	west	Skeletonema spp.	9000



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)

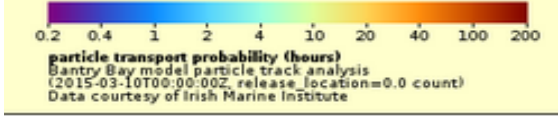
A *Karenia mikimotoi* bloom
is NOT expected this week



SOUTHWEST: Bantry Bay

The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



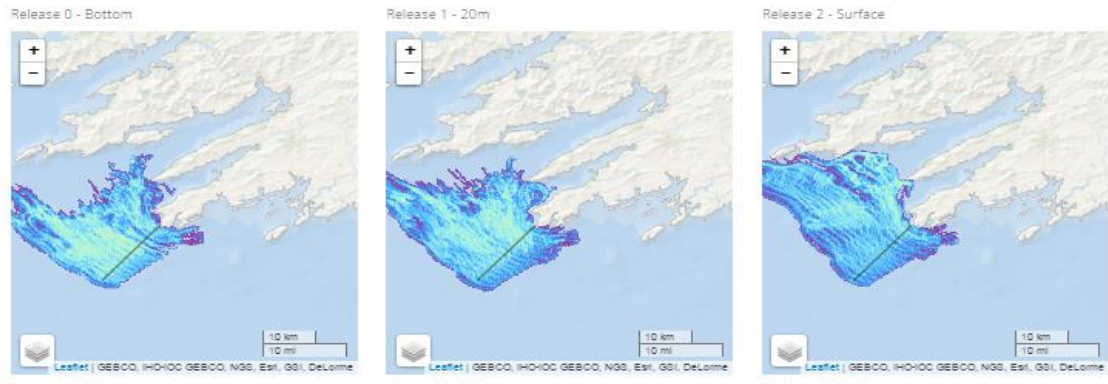
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

Bottom water

Water @ 20 metres

Surface water



Mixed northerly movement of waters , at all depths, allowing for mixing and some intrusions of Celtic Sea waters into inner bay areas.



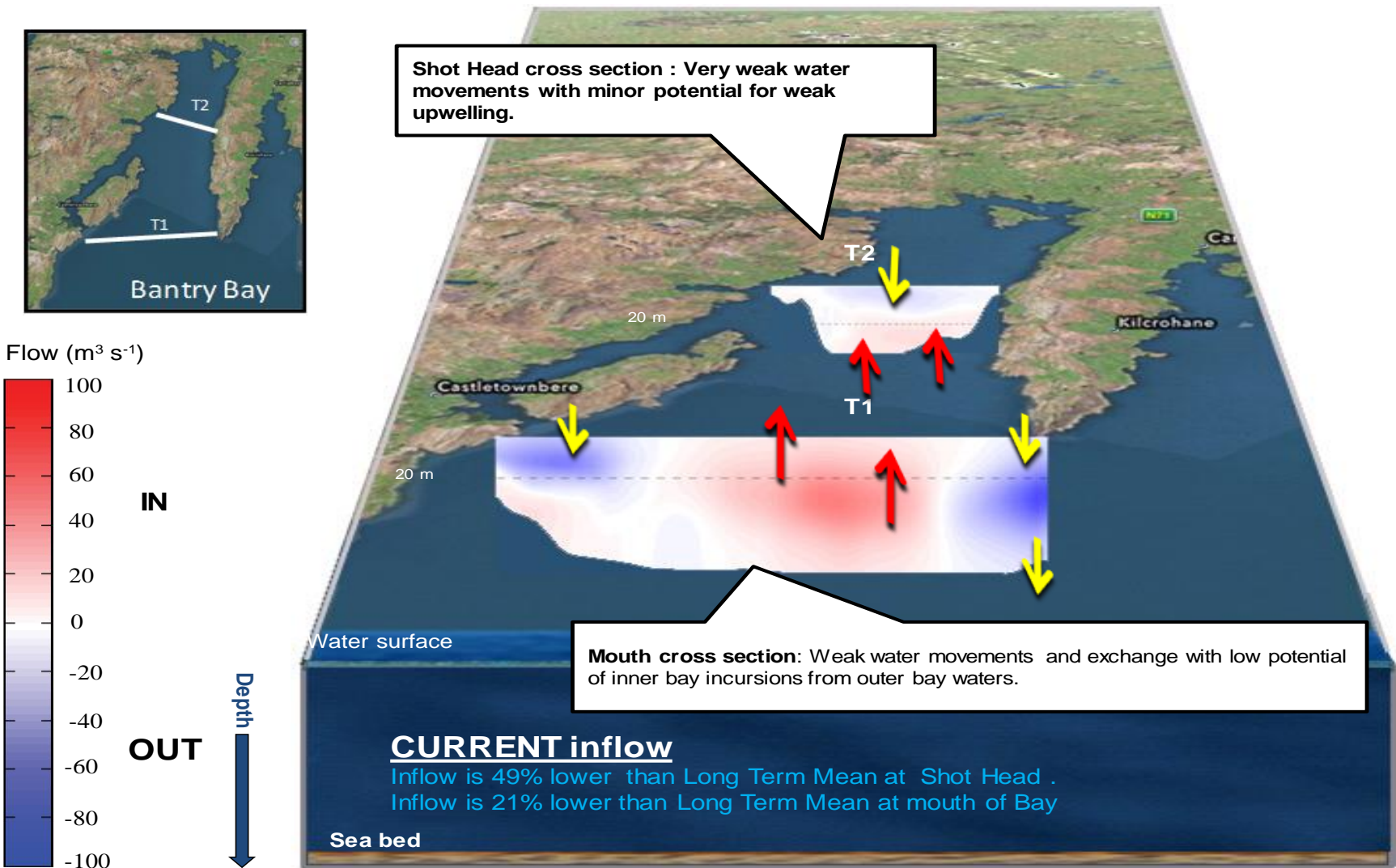
Slack water movements at all depths with a low potential of upwelling at mouth of Bay area .

Go to <http://vis.marine.ie/particles/> to view daily forecasts

Bantry Bay

3 day estimated water flows at the mouth and mid-bay sections of Bantry Bay

Forecast for next 3 days




WEST: Killary Harbour

Forecast for the next 3 days

The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

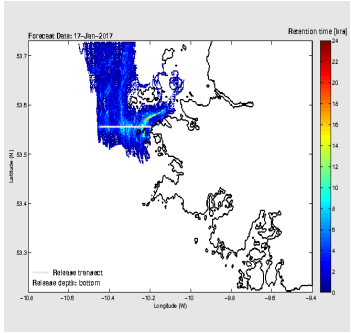
Reddish colours represent areas where phytoplankton remain longest

Cooler colours represent areas where phytoplankton remain for shorter periods

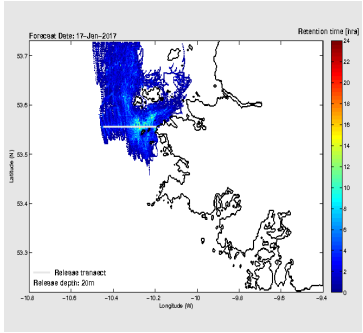


particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

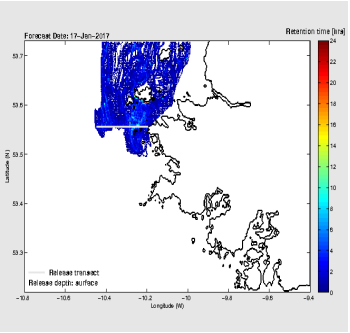
Bottom water



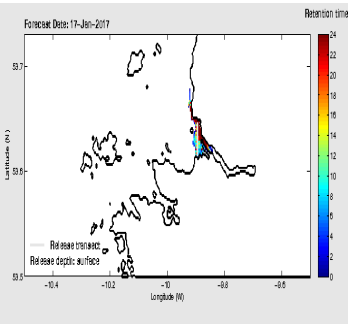
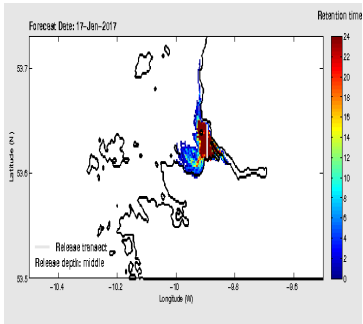
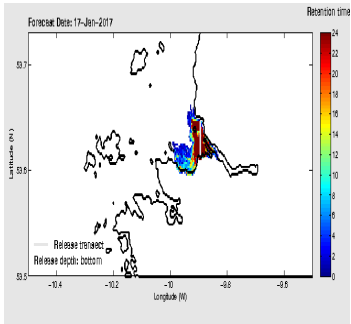
Water @ 20 metres



Surface water



Water movement in a predominantly mixed northerly direction allowing for off shore waters to reach exposed shore areas at all depths.



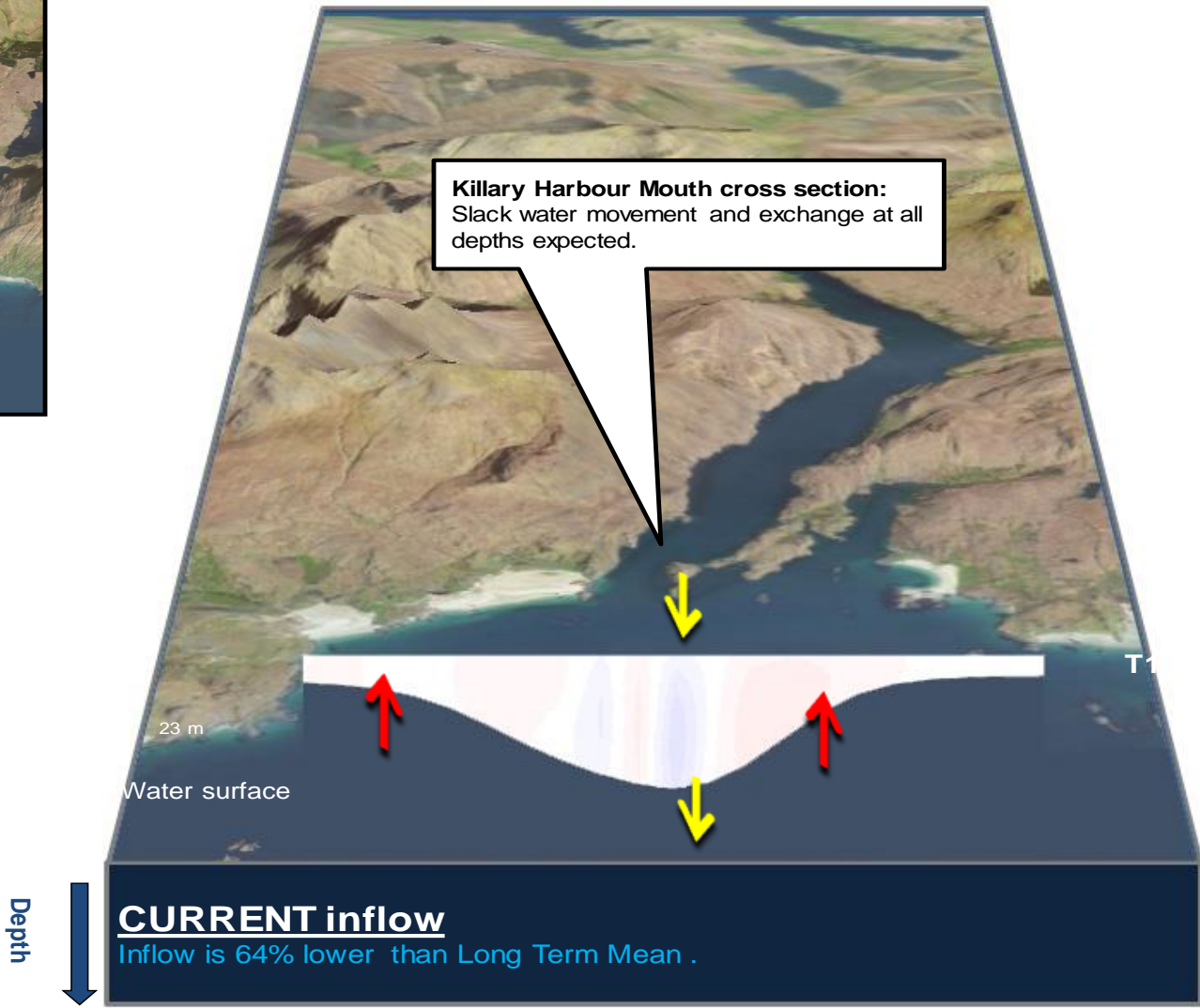
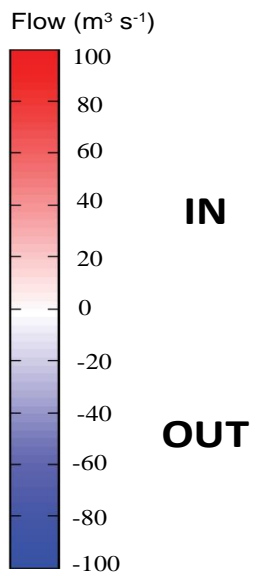
Potential of well mixed offshore waters, at all depths, reaching outer bay areas. Outer bay waters reaching sheltered inner bay areas not expected.

Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days



West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days

